

Applicant: Heikki Niiranen
Application Serial No.: 10/588,824
Filing Date: December 4, 2008
Docket No.: 513-7 PCT/US
Response to October 8, 2010 Final Office Action

LISTING OF CLAIMS:

Claim 1. (Withdrawn): A procedure in dry formation of a fibre layer, in which procedure fibre-containing air is passed through a forming wire (7) moving via a former (2) or an equivalent distributor unit and further through a suction box (8) or equivalent via channels (11) with an adjustable flow rate, where the suction box or equivalent being placed below the forming wire, and which air is circulated back to the upper part of the same or another former via channels (17) with an adjustable flow rate, characterized in that the channel-specific adjustment of the circulation airflow is made during operation by decreasing or increasing the cross-sectional area of the mouths of the channels (17) placed above the forming wire.

Claim 2. (Withdrawn): A procedure according to claim 1, characterized in that the channel-specific adjustment of the circulation airflow is made at both sides of the forming wire (7) during operation by decreasing or increasing the cross-sectional area of the mouths of the channels (17) placed above the forming wire (7), and by decreasing or increasing the cross-sectional area of the mouths of the channels (11) placed in the suction box (8).

Claim 3. (**Currently Amended**): An apparatus (~~4~~) in dry formation of a fibre layer, said apparatus comprising at least one former (~~2~~) or an equivalent distributor unit, a forming wire (~~7~~) moving below the former and at least one with adjustable channels (~~11~~) equipped suction box (~~8~~) below the forming surface of the forming wire (~~7~~) and a system of circulation air channels leading from the suction box (~~8~~) to the upper side of the same or some other former or an equivalent distributor unit, the circulation air channels having channel system (~~9~~) equipped with regulating element (~~18~~) and divided into substantially separate channels (~~17~~), characterized in that the number of channels (~~11~~) in the suction box (~~8~~) is substantially the same as the number of channels (~~17~~) in the channel system (~~9~~).

Claim 4. (**Currently Amended**): An apparatus according to claim 3, ~~characterized in that~~ wherein the cross-sectional area of channels (~~11~~) and their width in the transverse direction of the forming wire (~~7~~) at the upper surface of the suction box (~~8~~) has been fitted to correspond

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to the corresponding dimensions of channels (17) at the upper edge of the drum part of the former (2).

Claim 5. (**Currently Amended**): An apparatus according to claim 3, ~~characterized in that~~ wherein the regulating element (18) of the channels (17) of the channel system (9) has been fitted to be adjusted during operation of the apparatus.

Claim 6. (**Currently Amended**): An apparatus according to claim 3, ~~characterized in that~~ wherein the channels (11) in the suction box (8) has been fitted to lead in a converging manner into an exhaust duct (12) provided at the side of the suction box (8) and leading to a fan (13).

Claim 7. (**Currently Amended**): An apparatus according to claim 3, ~~characterized in that~~ wherein the cross-sectional areas of channels (17) at the junction between the upper part of the former and the channels (17) are mutually substantially equal, and that the total width of channels (17) covers substantially the entire transverse width of the forming wire (7) at the junction of the upper part of the former.

Claim 8. (**New**): An apparatus for the formation of a fibre layer, the apparatus comprising:

- at least one former;
- a moving forming wire disposed below the former;
- a suction box disposed below a forming surface of the forming wire, the suction box including at least one adjustable lower channel; and
- at least one circulation air channel leading from the suction box to an upper side of the at least one former, the at least one circulation air channel having a regulating element for regulating air passage to at least one upper channel, wherein the number of upper channels is substantially the same as the number of lower channels, the at least one upper channel being adjustable during operation.

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Claim 9. **(New)** An apparatus according to claim 8, wherein the cross-sectional area of channels and their width in the transverse direction of the forming wire at the upper surface of the suction box has been fitted to correspond to the corresponding dimensions of channels at the upper edge of the drum part of the former.

Claim 10. **(New)** An apparatus according to claim 8, wherein the regulating element of the channels of the channel system has been fitted to be adjusted during operation of the apparatus.

Claim 11. **(New)** An apparatus according to claim 8, wherein the channels in the suction box has been fitted to lead in a converging manner into an exhaust duct provided at the side of the suction box and leading to a fan.

Claim 12. **(New)**: An apparatus according to Claim 8, wherein the upper channel is divided into substantially separate channels, the air passage regulation to the separate channels being adjusted separately.